



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 10  
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ENFORCEMENT &  
COMPLIANCE ASSURANCE  
DIVISION

July 9, 2019

Mark Larsen  
Project Coordinator  
ANCHOR QEA, LLC  
1119 Pacific Avenue, Suite 1600  
Tacoma, Washington 98402

Re: Comments on Bosma Lagoon 10 Basis of Design Report  
Administrative Order on Consent ("Consent Order")  
Docket No. SDWA-10-2013-0080  
Yakima Valley Dairies, Washington

Dear Mr. Larsen:

EPA has completed our review of:

H&S Bosma Dairy Consolidated Lagoon No. 10 Basis of Design Report 100% Design Submittal  
(June 24, 2019)

Based on our review, it appears that you did not address comment number 12 in EPA's May 28, 2019 letter, which stated:

12. Consideration of the test pit data indicates that Figure 3 (H&S Bosma Dairy Consolidated Lagoon No. 10 Subsurface Soil Characteristics Cross Section 10A-10A') in the approved Report is inaccurate. Provide a revised Figure 3 (lagoon cross section) that includes consideration of the test pit data. The test pit sample data indicate that the bottoms of Lagoon 10 and/or Lagoon 11 intersect the lower "Gravelly Silty Sand (Fill)" soil layer shown in Figure 3 in the Report. Delete the information from LD-SB-L105S, which is located 138 feet south of the cross section and is not consistent with the data that is available on the cross section.

In addition, update the construction schedule in Figure 4 so that it is consistent with the information in Section 5 – Construction Schedule.

Pursuant to Paragraph 14 of the Consent Order, the Respondents must address these comments and re-submit this document no later than August 16, 2019. Revise Figure 3 as indicated in the enclosed figure which EPA has modified.

Appendix B indicates that three samples were taken from the bottom of Lagoon 11, and their composition consisted of:


- Poorly Graded Sand with Gravel (SP)
- Poorly Graded Sand with Gravel (SP)
- Poorly Graded Gravel with Silt and Sand (GP-GM)

The geologist's field notes indicate that all three samples contained cobbles, and the laboratory data indicate they contained less than 10% fines. Such soils are difficult to compact, porous, and prone to relatively high rates of leakage. This lagoon leaked significantly when in use. These data indicate that this lagoon and ones like it, such as the group of lagoons upgradient of YVD-08, were<sup>1</sup> significant sources of nitrate to the drinking water aquifer and downgradient residential drinking water wells.

The lining of consolidated Lagoon 10 shall be completed no later than December 31, 2019.

You may contact me at (206) 553-6904, or your legal counsel may contact Jennifer MacDonald at (206) 553-8311, if you have any questions regarding this letter.

Sincerely,

A handwritten signature in black ink, appearing to read "Eric Winiecki".

Eric Winiecki  
EPA Project Coordinator  
Office of Compliance and Enforcement

Enclosure

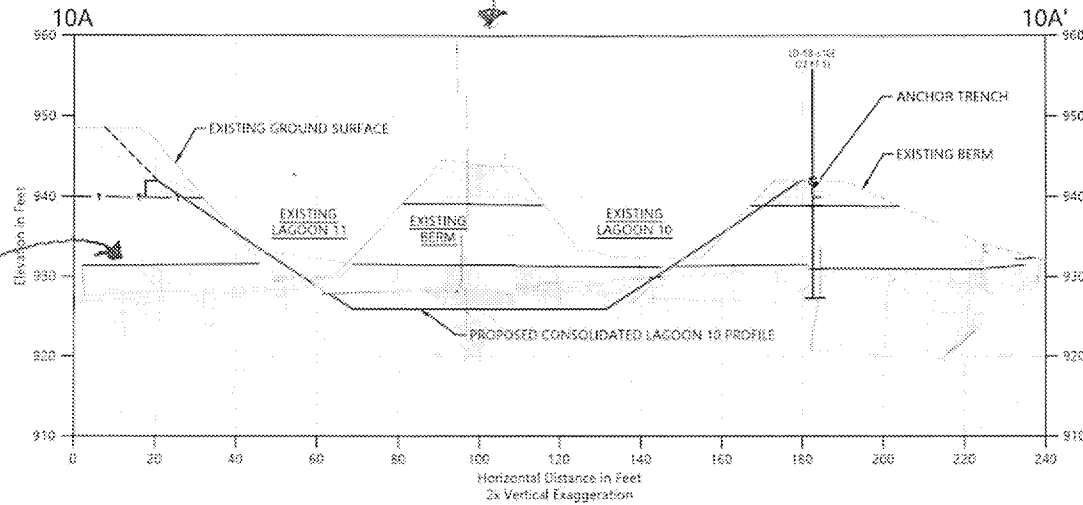
cc: Jennifer MacDonald  
Rene Fuentes

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<sup>1</sup> The data indicate that similar lagoons that are still in use and have not yet been lined in accordance with the Consent Order are a significant source of nitrate to the drinking water aquifer and downgradient residential drinking water wells.

Delete south boring (not on transect)

Raise this line to intersect bottom of Lagoon 11 (as shown)



**LEGEND:**

- Sandy Silt (Fill)
- Gravelly Silty Sand (Fill)

- Lithologic Contact (Dashed where inferred)
- Existing Ground Surface
- Proposed Lagoon Profile
- No Subsurface Information Present (Provided for Visual Purposes Only)

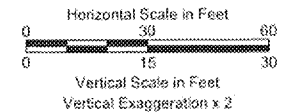
LD-SB-L10S  
(138.4 FT S)

Boring Identification  
(Approximate  
Distance in Feet and  
Direction)

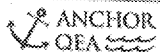
Boring Location

**Stratigraphy Note:**

Soil layers presented are based on a limited number of subsurface explorations; therefore conditions during construction may vary from that shown.



HORIZONTAL DATUM: Washington State Plane  
NAD83 South, US II  
VERTICAL DATUM: NAVD88, II



**Figure 3**  
**H&S Bosma Dairy Consolidated Lagoon No. 10 Subsurface Soil Characteristics Cross Section 10A-10A'**

Basis of Design Report  
H&S Bosma Dairy Consolidated Lagoon No. 10